



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------------|---------------------|------------------|
| 10/730,309 | 12/08/2003 | Eduardo R. Mondragon-Parra | DP-309838 | 2196 |

27305 7590 08/27/2004

HOWARD & HOWARD ATTORNEYS, P.C.
THE PINEHURST OFFICE CENTER, SUITE #101
39400 WOODWARD AVENUE
BLOOMFIELD HILLS, MI 48304-5151

EXAMINER

DUNWOODY, AARON M

ART UNIT PAPER NUMBER

3679

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,309

Applicant(s)

MONDRAGON-PARRA ET AL.

Examiner

Aaron M Dunwoody

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/8/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

No priority claimed.

Information Disclosure Statement

The information disclosure statement (IDS) filed 12/8/2003 is being considered by the examiner.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: d, D, 42a. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 4678453, Aucktor et al.

In regards to claim 1, Aucktor et al discloses a stroking ball-type constant velocity joint comprising:

an inner joint member (4) having an outer surface defining a plurality of radially outwardly facing grooves (5a-c) characterized by the plurality of radially outwardly facing grooves including substantially longitudinal grooves in combination with substantially helical grooves, wherein each helical groove is disposed in mirrored rotational relation with a corresponding helical groove.

In regards to claim 2, Aucktor et al discloses each of the plurality of radially outwardly facing grooves extending in mirrored relation to at least one other groove.

In regards to claim 4, Aucktor et al discloses each of the substantially helical grooves extending between two of the substantially longitudinal grooves.

In regards to claim 5, Aucktor et al discloses the substantially helical grooves and the substantially longitudinal grooves being disposed in alternating relation along the outer surface of the inner joint member.

Art Unit: 3679

In regards to claim 6, Aucktor et al discloses the plurality of radially outwardly facing grooves including at least three grooves extending in different directions with respect to one another along the outer surface.

In regards to claim 7, Aucktor et al discloses each of the three grooves extending in mirrored relation to at least one other groove.

In regards to claim 8, Aucktor et al discloses a first helical groove extending between second and third helical grooves extending in opposite rotational relation to the first helical groove.

In regards to claim 10, Aucktor et al discloses a plurality of balls (6) individually disposed in and movable along the plurality of radially outwardly facing grooves; and a cage (7) surrounding the inner joint member and defining a plurality of windows wherein each of the plurality of balls individually pierces one of the plurality of windows, the plurality of windows including short windows adjacent the substantially longitudinal grooves and long windows adjacent the substantially helical grooves.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 9 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aucktor et al in view of US patent 5685777, Schwarzler.

In regards to claim 3, Aucktor et al discloses the claimed invention except for four grooves of the plurality of radially outwardly facing grooves extending parallel to one another. Schwarzler teaches four grooves (20, 21) of the plurality of radially outwardly facing grooves extending parallel to one another. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide four grooves of the plurality of radially outwardly facing grooves extending parallel to one another, since duplicating the components of a prior art device is a design consideration within the skill of the art. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

In regards to claim 9, Aucktor et al in view of Schwarzler disclose the plurality of radially outwardly facing grooves includes eight grooves.

In regards to claim 11, Aucktor et al in view of Schwarzler disclose the inner joint member including a first end and a second end and the plurality of radially outwardly facing grooves extend from the first end to the second end and include four substantially longitudinal grooves disposed along the outer surface ninety degrees from one another and four substantially helical grooves individually disposed along the outer surface between two of the four substantially longitudinal grooves and wherein each of the substantially helical grooves extends in opposite relation to two adjacent helical grooves.

In regards to claim 12, Aucktor et al in view of Schwarzler disclose a stroking ball-type constant velocity joint comprising:

an inner joint member having a first end and a second end and an outer surface defining a plurality of radially outwardly facing grooves extending from the first end to

Art Unit: 3679

the second end including four substantially longitudinal grooves disposed along the outer surface ninety degrees from one another and four substantially helical grooves individually disposed along the outer surface between two of the four substantially longitudinal grooves;

a plurality of balls individually disposed in and movable along the plurality of radially outwardly facing grooves;

a cage surrounding the inner joint member and defining a plurality of windows wherein each of the plurality of balls individually pierces one of the plurality of windows, the plurality of windows including short windows adjacent the substantially longitudinal grooves and long windows adjacent the substantially helical grooves; and

an outer joint member surrounding the cage and having a third end and a fourth end and an inner surface defining a plurality of radially inwardly facing grooves extending from the third end to the fourth end including four substantially longitudinal grooves disposed along the inner surface ninety degrees from one another and four substantially helical grooves individually disposed along the inner surface between two of the four substantially longitudinal grooves and wherein the plurality of outwardly facing grooves of the inner joint member cooperate with the plurality of inwardly facing grooves of the outer joint member forming a plurality of passages guiding movement of the plurality of balls.

In regards to claim 13, Aucktor et al in view of Schwarlzer disclose the substantially helical grooves and the substantially longitudinal grooves being disposed in alternating relation along the outer surface of the inner joint member.

Art Unit: 3679

In regards to claim 14, Aucktor et al in view of Schwarzler disclose each of the helical grooves of the inner joint member and each of the helical grooves of the outer joint member extending in opposite relation to two adjacent helical grooves.

In regards to claim 15, Aucktor et al in view of Schwarzler disclose at least one of the plurality of passages being defined by a first helical groove of the inner joint member and a second helical groove of the outer joint member wherein the first and second helical grooves extend in opposite rotational relation to one another.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure because it illustrates the inventive concept of the invention.

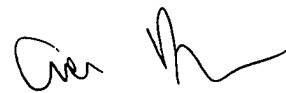
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M Dunwoody whose telephone number is 703-306-3436. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P Stodola can be reached on 703-306-5771. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3679

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

.amd



Aaron Dunwoody
Patent Examiner
Technology Center 3670